

Supplemental
Notice of Allowability

Application No.

09/554,860

Applicant(s)

BRUCK ET AL.

Examiner

Nora M. Rooney

Art Unit

1644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 09/19/2007.
2. ☒ The allowed claim(s) is/are 1 and 18-20.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

SUPPLEMENTAL EXAMINER'S AMENDMENT

1. The amendment set forth below corrects the specification by adding Brief Description of the Drawings and Abstract sections.
2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 C.F.R. 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
3. Authorization for this amendment was given in a telephone interview with Jason Fedon on 01/04/2008.

In the specification:

4. Please add the following paragraphs to page 13, beginning on line 12:

BRIEF DESCRIPTION OF THE FIGURES

Figure 1 illustrates the expression of a 43 kDa protein corresponding to mature Der p1 in fusion with the prepeptide MF-alpha of *Pichia pastoris* (construct pNIV4811) in yeast cells. The culture supernatants from various *Pichia pastoris* clones incubated in the absence or presence of methanol (methanol induction for 1 to 5 days indicated on the x axis) have been analyzed by SDS-PAGE and immunoblot analysis using an anti-Der p1 peptide (117-133) polyclonal antibody.

Figure 2 illustrates expression of mature Der p1 (30 kDa) in fusion with the prepeptide of *Pichia pastoris* MF-alpha (construct pNIV4817) in yeast cells. The culture supernatants from *Pichia pastoris* cells incubated in the absence (J0) or presence of methanol for 1 day (J1) have been concentrated 50 times and, then, analyzed by SDS-PAGE and immunoblot analysis using an anti-Der p1 peptide (117-133) polyclonal antibody. Arrows indicate the mature Der p1 doublet at about 30 kDa.

Figure 3 illustrates expression of Der p1 in fusion with its propeptide (construct pNIV4812) in CHO-K1 cells. The cell extracts from different clones of CHO-K1 cells transfected with pNIV4812 (lanes 3-8) or transfected with the vector pEE14 alone as negative

controls (lane 1 & 2) have been analyzed by SDS-PAGE and immunoblot analysis using an anti-Der p1 peptide (117-133) polyclonal antibody. The arrow indicates the mature Der p1 protein.

Figure 4 illustrates expression of Der p1 in fusion with its propeptide (construct pNIV4840) in drosophila cells S2 (Invitrogen). The cell extracts of different clones of CHO-K1 cells transfected with pNIV4840 (lanes 1 & 4) or transfected with the inducible vector pMT/V5-His alone as negative controls (lanes 2,3,5, & 6) have been analyzed by SDS-PAGE and immunoblot analysis using an anti-Der p1 peptide (117-133) polyclonal antibody. The induction has been carried out for 22 hours (1-3) and 28 hours (4-6).

Figure 5 illustrates expression of non-cleavable, non-activable Der p1 mutant in fusion with its pro-peptide (construct pNIV4842) in drosophila cells S2 (Invitrogen). The cell supernatants from transiently transfected S2 cells with pNIV4842 (lanes 1-4) or transfected with the inducible vector pMT/V5-His alone as negative control (lanes 5) have been analyzed by SDS-PAGE and immunoblot analysis using an anti-Der p1 peptide (117-133) polyclonal antibody. Lanes 1 to 4 correspond to 1, 4, 5, and 6 days of induction, respectively. Arrows indicate the pro Der p1 doublet at about 36 kDa.

Figure 6 illustrates expression of non-active Der p1 mutant in fusion with its propeptide (construct pNIV4843) in drosophila cells S2. The cell supernatants from transiently transfected S2 cells with pNIV4843 (lanes 6-9) or transfected with the inducible vector pMT/V5-His alone as negative control (lanes 5) have been analyzed by SDS-PAGE and immunoblot analysis using an anti-Der p1 peptide (117-133) polyclonal antibody. Lanes 6 to 9 correspond to 1, 4, 5, and 6 days of induction, respectively. Arrows indicate the mature Der p1 doublet at about 36 kDa.

Figure 7 illustrates DerP1 restriction map of SEQ ID NO. 6.

Figure 8 illustrates sequence of full mutant DerP1 including pre-protein. Active site mutation Cys 132→Ala 132, corresponding to Cys34→Ala34 of the mature protein). Sequence includes coding (listed as SEQ ID NO. 6) and complementary DNA, and amino acid sequences (listed as SEQ ID NO. 1).

Figure 9 illustrates sequence of full mutant DerP1 including pre-protein containing a deletion at the propeptide cleavage site (NAET). Sequence includes coding (listed as SEQ ID NO. 7) and complementary DNA, and amino acid sequences (listed as SEQ ID NO. 2).

Figure 10 illustrates sequence of full mutant DerP1 including pre-protein. Active site mutation His 268 → Ala 268, corresponding to His170→Ala170 of the mature protein). Sequence includes coding (listed as SEQ ID NO. 8) and complementary DNA, and amino acid sequences (listed as SEQ ID NO. 3).

Figure 11 illustrates amino acid sequence (SEQ ID NO: 4) for the mutant DerP1 as encoded by pNIV4842, and shown in figure 5.

Figure 12 illustrates amino acid sequence (SEQ ID NO: 5) for the mutant DerP1 as encoded by pNIV4843, and shown in figure 6.

5. An Abstract on a separate sheet is attached as required under 37 CFR 1.72(b). Please insert the attached abstract, following the claims.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nora M. Rooney whose telephone number is (571) 272-9937. The examiner can normally be reached Monday through Friday from 8:30 am to 5:00 pm. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Helms can be reached on (571) 272-0832. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

January 11, 2008

Nora M. Rooney, M.S., J.D.

Patent Examiner

Technology Center 1600

Maheer M. Haddad
MAHER M. HADDAD
PRIMARY EXAMINER